

SOME RETROSPECTS AND  
PROSPECTS IN SURGERY,  
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F.R.C.S., Member of Council,  
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terian Professor of Pathology  
and Surgery, Royal College of  
Surgeons; Honorary Fellow  
of the American Surgical  
Association; President of the  
Medical Society of Liverpool  
(1881-2); of London (1896);  
and of the Surgical Section  
of the British Medical Asso-  
ciation (1901-2); Surgeon to  
St. Peter's Hospital, London.

An Address delivered at the  
Medical School of Cornell  
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TO THE  
MEDICAL STUDENTS  
OF  
CORNELL UNIVERSITY  
THIS ADDRESS  
IS  
RESPECTFULLY INSCRIBED.

## PREFACE.

I AM indebted to Mr. Kenneth W. Millican for this careful report of my remarks, which originally appeared in the *New York Medical Journal*, March 23, 1901. The illustrations are reproduced from drawings made in outline on the blackboard at the time.

I have added in the form of an appendix (No. I.) a short notice of Cornell University and its Medical Department, which has been recently built, equipped and endowed by the liberality of Colonel Payne. I am not aware of a parallel instance in which any one of the existing Medical Schools in London, Liverpool, Manchester, Leeds, Birmingham, and other great cities in the United Kingdom has largely benefited in the same way as Cornell.

I have also included, in view of the forthcoming discussion on Renal Tension in the Surgical Section of the British Medical Association (Cheltenham, July, 1901), comments on this subject (Appendix II.), which have appeared in some Medical Journals.

6, Lower Berkeley Street, W.,  
May, 1901.

## *Some Retrospects and Prospects in Surgery.*

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THOUGH my friend, Dr. Samuel Alexander, whose place at this clinic I occupy to-day, endorsed by my still older colleague and host, Dr. Frederic S. Dennis, gave me, on my arrival in New York a few days ago, but little chance of escape into Florida, I feel that an apology is due from me to you for addressing you on subjects relating to the practice of surgery which do not now present any material feature of originality or novelty. I propose to consider *Some Retrospects and Prospects in Surgery*. The old century is past and gone, and I am reminded that it has left behind it important landmarks of progress which, though at the present moment they may perhaps be regarded somewhat in the light of ancient history, are full of suggestion as to the directions research is likely to take with advan-

tage to the cause of science in the new epoch that has opened.

Thus may the past furnish view-points wherefrom to anticipate the future, and so tend to free me from feeling that I may not aimlessly have occupied the time of so distinguished a gathering of my American brethren who have so warmly again welcomed me amongst them.

It would amount to false modesty on my part if, in the face of my various contributions to the surgery of the urinary organs and its literature, both at home and in America, I were to hesitate to address you on some matters relating to this interesting and far-reaching subject. In pursuance, therefore, of my idea of attempting to show how one recognised advance may be regarded as merely an instalment in the direct line of progress or discovery, I will take up the several points I wish to illustrate in the order in which they have casually presented themselves to me and have occupied my attention.

In addressing an audience of physicians and surgeons in the United States, I need hardly say that amongst the most prominent advances in surgery that distinguished the last century was the development of the operation for vesical stone by Professor Bigelow, of Boston, and the perfecting of the process now known as

litholapaxy, wherein the crushing of the stone with the lithotrite is immediately followed by the rapid evacuation of the fragments so triturated and prepared.

On the occasion of my first visit to America, in 1878, it was my good fortune and privilege to see some of Bigelow's earliest operations, as recorded in his work, and to hear from the lips of this distinguished surgeon the expectations he hoped to realise. The latter have been accomplished, the operation has generally been accepted, and the mortality and suffering connected with the removal of stone from the bladder have been greatly diminished. Soon after this visit it fell to my lot to demonstrate for the first time in my own country the instruments and processes employed by Bigelow, and in a very short time to witness the supplanting of old methods by what at that time was new and original. It is a point of interest to notice, as indicating the completeness of the mechanism proposed and adopted at the time referred to, that the apparatus used now is practically the same as that with which Bigelow himself worked, a set of instruments being now in my possession as he presented them to me. It is rare to find the details connected with a complex discovery in its early stages so complete in all respects as this appears to have been.

It is impossible not to recognise at this stage of my remarks that Bigelow's proposal to revolutionise the operation for the treatment of vesical stone in the way I have described, particularly in reference to the character of the instruments employed in his operation, was doubtless influenced by another discovery which preceded it. I can remember Bigelow mentioning this subject on more than one occasion, thus again indicating how one advance is often dependent upon another. I refer to the late Dr. Otis's investigations as to the size of the male urethra, and the greater degree of distension, as compared with the former views, it was capable of undergoing without detriment to the normal canal and with much permanent advantage to the strictured one. This was an important precedent to Bigelow's proposal, which followed in its wake.

These are, I admit, matters which I would now speak of, with all respect, as of ancient history. But Bigelow's influence over others in regard to this operation did not cease with him. In the course of time, and as experience increased, it became clear that, though his operation was both safe and successful, it was open to be followed by recurrences which tended to limit somewhat its application, and to the substitution of less desirable methods.

The prominence given to the latter consideration by the analysis of results has directed attention to the importance of applying knowledge we possess, but have not hitherto sufficiently used, as to the probable mode in which urinary stone and concretions are formed, and the influence that the enlarged prostate exercises on the trapping, the formation, and recurrence of these bodies. Hence I have alleged for Bigelow's work, in reference to the subject of stone alone, not only that he has provided us with the best and most scientific method of removing stone from the bladder, as demonstrated by over twenty years' experience of it, but that the application of it has actually been the means of demonstrating that, apart from the mere mechanism of these operations, there are underlying considerations connected with them to which sufficient importance has not hitherto been attached.

Time will not permit me to go over that ground connected with this aspect of Bigelow's work which I have recently occupied and publicly discussed. Since the time when, some years ago, the American Surgical Association was good enough to confer upon me the great distinction of their Honorary Fellowship, I have not omitted, whenever I happened to contribute anything to the medical press or to our societies

which in my humble judgment seemed worth repeating and reprinting, to forward a copy of the reprint to my colleagues in America belonging to this Association as some trifling acknowledgment of their kindness to me.

"The Probable Mode of Formation of Urinary Stone in Relation to Rainey's Views on Molecular Coalescence,\* and the Bearing of Prostatic Enlargement and its Complications upon Stone Recurrence," was the title of the most recent reprint† I have had the honour of submitting to the Fellows of the American Association in the spirit I have just referred to. It would be unnecessary to further refer to it. I may, however, briefly remind some present here to-day who may be unacquainted with Rainey's work in reference to the subject of stone, that he demonstrated at St. Thomas's Hospital in London, so far back as 1857, a mode of making calculi artificially by what he described as "molecular coalescence." The more recent works and demonstrations of the late Dr. Van-

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\* "Precise Directions for Making Artificial Calculi." *Transactions of the Royal Microscopical Society*, vol. vi. "On the Mode of Formation of Shells of Animals, of Bone, and of several other Structures, by a Process of Molecular Coalescence, demonstrable in certain Artificially formed Products" (Churchill, London, 1858).

† *The Lancet*, February 9, 1901.

dyke Carter\* and Dr. W. M. Ord† have confirmed and extended these views. From them we may conclude, as I have already stated : (1) that for the production of calculi artificially by molecular coalescence *precision* in regard to all details connected with it is required ; (2) that success is dependent upon the sequence or concurrence of several factors or fixed conditions ; and (3) that molecular coalescence, as first described and taught by Rainey, explains the formation of calculi in the human urinary apparatus.

It is stated, and no doubt with some truth, that the causation of gravel and stone is connected with processes of physiological chemistry as yet imperfectly understood. This may be so, but it must be a matter of common observation, considering the complex nature of stone-formation as it occurs in the human body, that advantage is not generally taken on more definite lines to abort the process and to render it inoperative. For it would seem that the more

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\* "The Microscopic Structure and Formation of Urinary Calculi" (Churchill, London, 1873).

† "On the Influence of Colloids upon Crystalline Form and Cohesion, with Observations on the Structure and Mode of Formation of Urinary and other Calculi" (Stanford, London, 1879); also *Transactions of the Royal Medical and Chirurgical Society*, March 9, 1875.

complex and precise are the conditions for a constructive act of this nature, the less likely is it to happen casually, whilst the more open is it to attack from the direction I have ventured to indicate. We may, for instance, be only partly acquainted with all the changes connected with some delicate experiment, but none the less do we recognise how its failure may be effected.

By the kindness of Dr. Dennis, I have had the opportunity of seeing within the last few days the splendid laboratories for research which this, the new building connected with the University of Cornell, contains. I have never seen anything to equal them, much less to surpass them, in their construction and equipment. I do not know any subject which is likely to afford greater fascination or intellectual profit to the graduates and others than repeating Rainey's experiments relative to the formation of stone with a view to their further development in the cause of both prevention and cure, under the very favourable conditions which exist in this building, for I can only speak of it as a palace devoted to the highest and most humane kind of research.

It is somewhat remarkable, judging from their omission, as a rule, from all surgical textbooks, including special treatises on the subject, that hitherto Rainey's views have received so

little attention at the hands of practical physicians and surgeons. This is to be regretted, as a knowledge of the construction of these concretions is a necessary preliminary to their treatment by operation or otherwise. I have endeavoured in the treatise referred to to afford evidence and reason for this. Had Bigelow, by inference, done no more than give prominence to defects inseparably connected, to some extent, with all operations for the treatment of stone, his memory would still have deserved our consideration and respect.

Without any special reference to stone recurrences or Bigelow's operation for its relief, in 1893 our colleague, Dr. William White, of Philadelphia, propounded the suggestion, by rational deduction, that by the removal of one or both of the testicles the hypertrophied prostate might be arrested in its growth, or even be reduced in size. This has been successfully demonstrated, and upon this other practices, such as the obliteration of the vasa deferentia and other constituent parts of the spermatic cord, have been founded, and followed by varying degrees of success and of failure. Out of this a considerable controversy has arisen, which still goes on. There can be no doubt whatever that a certain amount of success has thus been attained by one or other of these

means, though the results obtained have been so variable as to give rise to some perplexity, which I think it should be our business to endeavour to remove. All this, as I have said before, is ancient history, so far as the present century is concerned. But what about the future? Are all the records which divided opinions have called forth during the last seven or eight years not worth the paper upon which they are written, or are we to go back and take up the position of matters before this class of operation was launched upon the expectant world of surgery? I think not.

Cautiously feeling our way, as a pilot does in foggy weather when in the neighbourhood of obstructions, some of which are merely sand which delay, whilst others are rocks which would sink the vessel, we are beginning to recognise that the term "enlarged prostate," by which I mean the hypertrophied prostate, is, surgically speaking, a generalisation which, in relation to the application of treatment, is liable to mislead. What should we think in the present day of a surgeon who proposed to discuss for this purpose enlargements of the breast or injuries to the hip without further definition? In the near future, judging from observations which are steadily going on, the surgical treatment of the prostate,

when it has reached that stage or mechanism as to seriously obstruct the function of the bladder and to be unmanageable by the catheter, will largely turn, as in the almost analogous case of the tonsils and the throat, upon the evidence that is mainly afforded by an ocular inspection of the parts. For such purposes the development of electric cystoscopy, with the view of determining the precise nature, as well as the shape and relations, of the obstruction it is proposed to remedy by surgical means, has already proved of much advantage.

I would stop for a moment to illustrate this point in the following way as bearing upon others already touched.

In a case of rapidly recurring stone in the bladder of a man under 60 years of age, it was found by cystoscopic examination, before repeating Bigelow's operation of litholapaxy for the third time within two years in an otherwise healthy man, that a pedunculated or tongue-like process of prostatic tissue, but slightly detectable by rectal examination, had practically converted the lower and posterior segment of the bladder into a box (fig. 1) with a movable lid of prostate, which, by confining a certain proportion of the urine, brought about its decomposition and rendered it liable to produce

phosphatic stone when it was submitted to such conditions.

On this being accurately determined in the manner described, it was recognised that the calculus was only to be regarded as a natural consequence arising out of this condition of the

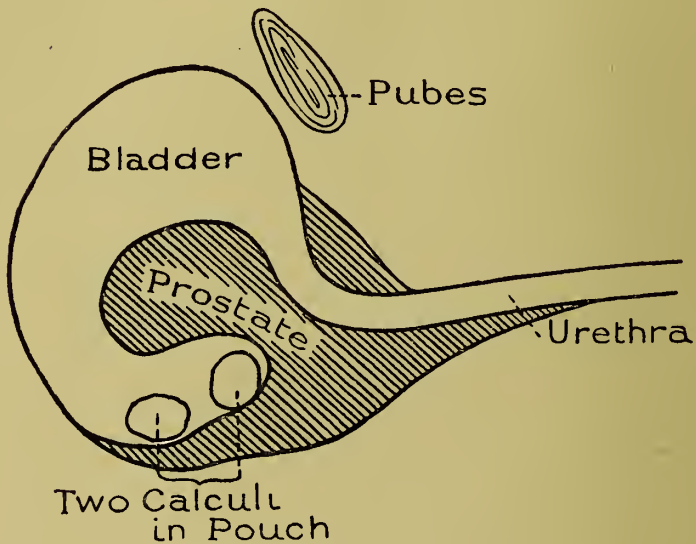


FIG. I.

parts ; as a fact, it would have been wrong if a stone had not formed under such inviting circumstances as presented. I therefore practised the median perineal *boutonnière* operation and twisted off the narrow-necked growth connected with the central lobe of the prostate. Under

cover of it were two phosphatic stones about as large as common filberts. A drainage-tube was temporarily introduced, and when I left home a fortnight after the operation the patient was progressing favourably. I have since ascertained from Mr. Pardoe, who assisted me at the operation and subsequently had charge of the patient, that he made an uninterrupted recovery, and, after eighteen months' catheter dependence, has been able to entirely dispense with the use of this instrument and to completely empty his bladder. This is a fair illustration of what the cystoscope may do in cases of this kind. The operations for stone were in no sense at fault.

In the paper I have recently submitted to the Fellows of your Surgical Association I have endeavoured to show that there are at least three varieties of prostatic hypertrophic obstruction, which, it is obvious, would not be likely to admit of a uniform method of operative treatment. There are other varieties in shape, but these three may be taken as typical of what in practice are most frequently met with as obstructing the function of the bladder. The more general hypertrophic growth (fig. 2) is one usually associated with more or less congestion and engorgement, and presents the variety in which vasectomy, castra-

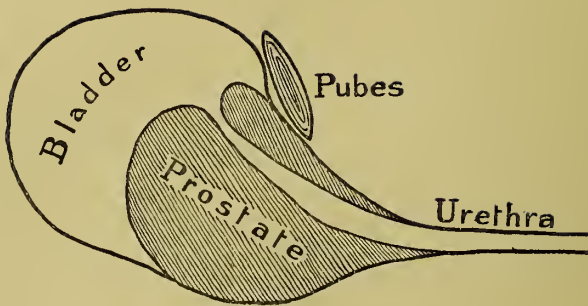


FIG. 2.

tion, and possibly Bottini's operation, have furnished the larger majority of good results. The pendulous prostatic outgrowth (fig. 3) is not

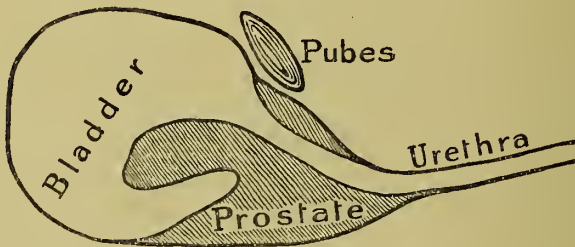


FIG. 3.

suited to any one of the proceedings I have just mentioned, but is best dealt with in the manner I have illustrated by the narration of a case; while the obstruction which is represented by the presence of interstitial adenomata (fig. 4), somewhat analogous with what occurs in connection with the female breast and the

tonsils, has been most successfully dealt with by enucleation through a suprapubic or perineal incision.\* By distinguishing these various conditions of prostatic hypertrophy, there seems every prospect of obtaining more uniform and better results from this class of operations.

Let me now turn, in continuation of my review, to the pathology of the kidney in

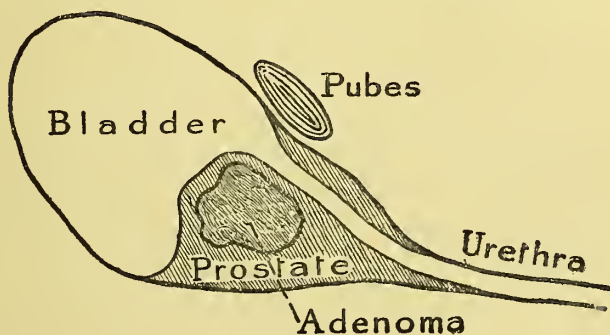


FIG. 4.

reference to what seems to promise to be an addition to its surgery.

The surgery of this organ is a creation and feature of the nineteenth century. We deal with it surgically in a variety of ways, with

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\* These isolated prostatic growths, which may be enucleated with so much benefit, are thus referred to by Sir Henry Thompson :—" It is very common to find independent, or almost independent, and isolated tumours of the same material embedded within the prostatic structure proper."—Holmes' "System of Surgery," vol. iv., 1878.

good success, for diseases and conditions which, if left to take their natural course, would speedily prove fatal. These I need not enumerate or further detail, as they are matters of more or less ancient history. But what about the future? As President of the Medical Society of London, in 1896, at the suggestion of the late Sir William Roberts, my presidential address was devoted to the subject of renal tension in relation more particularly to the continued presence in the urine of albumen as a prominent feature of disease.

The basis of these remarks arose partly out of the observation of the living kidney as seen in connection with its exploration for doubtful states of disease, such as stone, abscess, and pain; and partly from cases of more or less chronic albuminuria, where, after the search for likely temporary causes for this, the albumen had subsequently, entirely and—so far as I know, after considerable periods of observation—permanently disappeared from the urine.

Exploratory observations of the kidney, in addition to the examination of *post-mortem* specimens removed after periods of intense renal congestion, such as occur in connection with scarlet fever and some acute forms of nephritis, have led me to think that we under-rate, or do not correctly estimate, the damage

that may be done to the secreting portion of the kidney in this way. With the exception of the eye, there is probably no more delicate structure in the human body than that which is engaged in excreting so complex a fluid as the urine. Nor, having regard to the way in which this structure is packed away in, so to speak, compartments composed of slowly yielding fibrous tissue, and the whole invested in a capsule of the same nature, is there any other organ more likely to suffer from the effects of tension, however this may be produced. That the degree of tension in the kidneys is, at times, considerable and unusual, is often apparent on their exploration. Not only are they found deeply coloured, tense and resisting to the touch, but I have frequently seen, on puncturing the capsule for the purpose of exploring, blood spurt out in jets, as if projected under considerable contractile pressure and eager to escape.

It seems to me that, as with the eye, the testicle, and other structures of the body that will occur more particularly to the surgeon, such pressure, when long continued, may be capable of causing considerable damage, which is not lessened by the subsequent processes of repair that are rendered necessary. Thus may easily be commenced a series of changes, hyper-

trophic and otherwise, which it is not unreasonable to suppose will result in a slowly proceeding impairment or destruction of the secreting function of these organs.

The proposal to deal with this condition surgically is, at the present day, a reasonable one. Under antiseptic precautions the kidney may now be explored, and, if found necessary, the capsule divided to a limited extent with very little risk to life. It would be better to undertake such a risk if a chronic albuminuria, an invalid life, and the prospect of slowly disorganising renal tissue could be averted by such means. Cases that have been recorded by Dr. Newman, of Glasgow, in addition to my own and others that have been published, tend to support the conclusion I arrived at some years ago in reference to this point. Sir William Roberts, in a letter to me shortly before his lamented death, seemed to think that the suggestion I ventured to make might be the means of leading to a considerable revision of our views on kidney pathology and treatment.\*

I have undertaken to bring this subject

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\* The late Sir T. Grainger Stewart also wrote me as follows relative to my original paper:—"It seems to state extremely well a principle of treatment of very considerable practical importance, and one which I hope to be able to apply in practice from time to time."

forward for discussion in the Surgical Section of the British Medical Association at Cheltenham next July, and I am very pleased, as President of the section, to ask those of my friends here to-day who may find it convenient to be present to take a part in these proceedings, either by word of letter or of mouth. I may state for your information that I propose submitting this matter in the form of two questions :—*First*, To what extent may kidney tension, as seen in kidney congestions, be responsible for permanent structural damage to these organs, which may ultimately result in their chronic degeneration, as observed in some forms of Bright's disease? That is to say, is there such a condition in pathology—to coin a term put in my mouth by a friend much interested in this subject—as pernicious renal glaucoma? *Secondly*, Under what circumstances, if any, is the removal of tension by a surgical proceeding expedient and justifiable?\*

In the last place, I must not fail briefly to notice what antiseptics have done for the surgery of the urinary organs and the influence we may forecast that they may exercise on further developments, both in pathology and treatment.

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\* In Appendix II. will be found some public references to my proposals.

Probably no set of organs has shared in these benefits more largely than the entire urinary apparatus. The complex nature of the urine and its liability to excite sudden and violent symptoms of septic invasion under certain conditions are well known. They are such as we might suppose, though varying greatly in degree, could only be aroused by a virulent and fatal poison belonging, for instance, to the alkaloid group. We see this occasionally occurring unexpectedly after comparatively slight operations, such as the passing of bougies and catheters and other urethral instruments, and more frequently after internal urethrotomy. It is our desire, if possible, to keep clear of these. I remember some years ago—I dare not in the face of Lord Lister's active and progressive scientific life, a life which we hope will be prolonged to its utmost limits, refer to antiseptics as "ancient history," unless used as a term of our sincerest respect and endearment—the late Dr. Palmer, of Louisville, advocating the saturation of the urine with boric acid before operations, as a means of preventing those accidental developments to which I have just referred. The plan answered well in my hands, and I believe that in this way, by boric acid or by digestible drugs of this kind, the desired object may usually be obtained.

The study of bacteriology as applied to the urinary organs by Guyon, Janet, and the French school particularly, has already furnished some excellent results, and the diagnosis and treatment of urinary tuberculosis have also progressed under the practical application of these discoveries.

Can it be otherwise when we look around this palatial building, which has been provided through the generosity and philanthropy of Colonel Payne, whose interest in science and humanity has induced him to make this great gift to Cornell? It is a pleasure to see the kind of men and women who are actually working in it, and the kind of work they are doing for us. Would any one of us desire a more enduring monument, whether living or dead, than this?

I must now bring my remarks to a close. I feel very conscious that they are hardly worthy of the occasion. They have been put together at a few hours' notice, and if, as I am sure is the case, they are not up to your expectation, I only hope you will just hold up my friends, Dr. Dennis and Dr. Alexander, for this infliction, as I trust to be on my way to Florida by this time to-morrow, and shall no longer be on hand.

## APPENDIX.—I.

## CORNELL UNIVERSITY.

CORNELL UNIVERSITY was incorporated by the Legislature of the State of New York on April 27, 1865, and opened on October 7, 1868. The existence of the University is due to the combined wisdom and bounty of the United States, the State of New York, and Ezra Cornell. "I would found an institution where any person can find instruction in any study," are the memorable words of the last-mentioned benefactor.

Ezra Cornell's direct donation to the University was five hundred thousand dollars (£100,000), two hundred acres of land with useful buildings, and several smaller gifts for special purposes. His largest contribution, however, came in the shape of profits eventually made by the University on the land scrip which he purchased from the State. From the latter source alone the Trustees of the University have already realised a net return of about four million dollars (£800,000).

Cornell University being situated at Ithaca, over 200 miles from New York, in a place where the practical resources for teaching medicine and surgery were insufficient, led to the establishment of the Medical Department in 1898 in the latter city. This undertaking, which had been contemplated by the Trustees for several years, was made possible by the gift to the University of a large and fully equipped building specially planned for medical instruction, and by the bestowal of a sufficient endowment for the maintenance of a Medical School. The latter is due to the generosity and philanthropy of Colonel Payne, whose interest in science and humanity has induced him to make this noble gift. It would be difficult to

estimate the amount of money which has thus been expended.

The Medical Department of Cornell is close to Bellevue Hospital in New York, with its 900 beds and 10,000 in-patients. The Faculty of the College hold appointments in the hospitals and dispensaries in the city, and is able to utilise for teaching purposes ten of the great city institutions. In addition to these, the teaching corps of the Medical Faculty is represented upon the visiting staffs of many other hospitals and dispensaries in the city, where the Cornell students are invited to attend clinics.

The Medical Department of Cornell University is open to all who have a "medical-student certificate." The laws of New York State require of the prospective student of medicine a preliminary education equivalent to that obtainable in a four-years' course in any of the public high schools recognised by the Regents as maintaining a satisfactory standard. Those who cannot present formal evidence of at least this amount of preliminary education must pass the examinations conducted by the State authorities at regular intervals throughout the year. The medical-student certificate thus earned by examination or by a high school, college, or university diploma must be filed with the secretary at the time of registration. As the certificate can be obtained with very little or no knowledge of subjects which bear directly upon the study of medicine it is earnestly recommended that, before beginning the professional course, as thorough an understanding as possible be acquired of English, Latin, algebra, geometry, physics, and inorganic chemistry and physiology. This is obtainable to a certain extent in many high schools and is encouraged by the Regents, who grant a medical student's diploma for a sufficient amount of work so distributed as to be preparatory for subsequent advanced technical studies. As an academic college course offers far greater advantages in this respect, all who can are urged to take the Freshman and Sophomore years in the Academic

Department of the University proper at Ithaca. After the completion of these years the student may elect the work of the first two years of the Medical Department, which may be pursued at Ithaca, and at their expiration finish the remaining two years of the medical course in New York, and thus obtain both the B.A. and M.D. degrees in six years. This is possible, because the first two years of the medical course in New York are offered in duplicate at the University in Ithaca. Women must take these years in the Medical Department at Ithaca, where special accommodation is provided for them in the Sage College. Women are received at the Medical Department in New York City in the third and fourth years only.

I have long felt that we are in need of some degree of centralisation in London relative to Medical Education, though I do not see how this is to be effected without the intervention and aid of the general public as illustrated in the case of Cornell. Possibly the new teaching University of London may in the course of time see their way to promote this end without harsh interference with vested interests, or with those traditions which are especially dear to an old and, not unnaturally, conservative country.

## APPENDIX.—II.

### RENAL TENSION.

From *The Lancet*, October 24, 1896.

#### ALBUMINURIA TREATED BY RENI-PUNCTURE.

THE subject of Mr. Reginald Harrison's Presidential Address to the Medical Society of London was a happy instance of the benefit which may be obtained from the careful consideration of unexpected results. Many times have surgeons cut down on the kidney in a patient with severe lumbar pain, albuminuria, and other renal symptoms, in the expectation of finding a renal calculus or

some other gross lesion, and have been disappointed ; yet when the wound has healed the symptoms of which the patient has complained have completely disappeared. The explanation that was usually given was that some constricting band had been divided or that the result was due to the effect of the operation on the mind of the patient ; but there is much to be said in favour of the view put forward by Mr. Harrison that the result, in some cases at least, is due to the relief of tension. That increased pressure in the renal veins will lead to albuminuria and to a diminished secretion of urine has long been known. The explanation is less certain, though numerous theories are not wanting ; but whatever theory we may adopt to explain the presence of the albumen, or even if we consider none of those advanced to be satisfactory, yet we cannot doubt that the venous congestion does give rise somehow to the albuminuria, and in active hyperæmia of the kidney albuminuria is no less certain. In other parts of the body more accessible than the kidney we can diminish congestion, whether arterial or venous in origin, by local blood-letting ; so we have good *à priori* reasons for thinking that it is possible to relieve a congestion of the kidney by punctures or incisions, and if this were done it cannot be doubted that, at least in some cases, the albumen in the urine would disappear and the amount of urine excreted would increase. So many conditions that used to be considered wholly within the province of the physician have now come under surgical treatment that we can hardly be surprised at a further advance in the same direction, but no one anticipated that the aid of the surgeon would ever be invoked in acute nephritis and other allied pathological conditions. The matter is, of course, not yet one on which a decided opinion can be expressed, for the cases are too few ; but the unsatisfactory results of the treatment ordinarily pursued in albuminuria and in suppression of urine from nephritis are amply sufficient to justify a method of procedure which promises so much.

From *The Medical Press*, October 21, 1896.

THE RELIEF OF VISCERAL TENSION BY SURGICAL  
MEANS.

MANY of the diseased conditions of the internal viscera which ultimately give rise to morbid symptoms indicative of organic change are initiated by a more or less marked condition of vascular tension, and although this tension is rather the effect than the cause of already-existing disease, it probably paves the way to ultimate disorganisation and functional inadequacy. The early stages of cirrhosis of the liver and granular kidney often, if not always, begin with increased tension, which impedes the function of the particular organ, and ultimately determines structural changes characterised by hyperplasia of the connective tissue and consequent strangulation of the secretory structures. Mr. Reginald Harrison has placed before the profession certain facts observed by him in performing operations on the kidney, which seem to point to albuminuria being in some cases directly due to vascular tension and amenable to surgical measures. In the admirable address with which he inaugurated the Session of the Medical Society of London last week Mr. Harrison quoted a number of instances of patients who presented symptoms referable to the region of one or other kidney which were severe enough to warrant an exploratory exposure of the kidney in search of a calculus or a focus of suppuration. In these cases he was fain to admit that his diagnosis was at fault, but the error is hardly to be regretted, seeing that the result of incision or puncture of the congested kidney was to restore functional harmony, the albuminuria, pain, hæmaturia, &c., disappearing *pari passu* with the healing of the wound. The operation of cutting down on the kidney has of late years been rendered comparatively safe, so that, in presence of symptoms sufficiently severe to justify the slight risk entailed, no surgeon need hesitate to ascertain for himself whether the condition of the kidney is such as to warrant puncture or limited

incision with this object in view. The cases related by Mr. Harrison do not enable us as yet to state with any degree of certainty in what class of cases surgical measures are likely to be attended by benefit to the patient; they merely prove that there are cases in which surgical intervention, undertaken on quite other grounds, has paved the way to immediate and usually permanent recovery. It can obviously only be in cases of nephritis tending to a rapidly fatal issue, or cases in which the condition of the patient steadily becomes worse, that such radical measures can be justifiable. We do not open the abdomen and scrape the peritoneum because in a few cases laparotomy done for concomitant conditions has determined the retrogression of peritoneal tuberculosis, and physicians may rest assured that cases of nephritis which they have hitherto regarded as peculiarly their own are not yet on the eve of falling wholly into the domain of surgery.

From *The Hospital*, October 17, 1896.

IN his opening Presidential Address to the Medical Society on October 12, Mr. Reginald Harrison described a mode of treatment for certain forms of albuminuria which may not improbably take a prominent place in the means at our disposal for the relief of certain cases of kidney disease. The greatly increased safety with which exploration of the kidney can now be carried out has led not unnaturally to the performance of exploratory operations in some cases in which, speaking in the grosser sense, "nothing has been found," *i.e.*, no pus, no stone, no tumour. Nevertheless, in some such cases Mr. Harrison has found that, negative as the result of the operation had seemed at the time, its ultimate result has been good—albuminuria and pain, which had before been persistent, having ceased after its performance—and he has come to the conclusion that this good result is due to the relief of tension.

In this connection he points out the disastrous results of tension in other organs, referring to intraocular ten-

sion in glaucoma and to its relief by iridectomy and allied measures, and to the striking results which in many cases follow puncture of the testicle, as recommended by the late Mr. Henry Smith, in orchitis, cases in which not only is pain relieved, but ultimate damage to the structure is prevented. However capable of gradual distension the capsule of the kidney may be, there is no doubt that it is very intolerant of any sudden increase of intrarenal tension, and experience gained in operating on that organ teaches that in certain conditions of congestion the capsule of the kidney is so tightly stretched, and its substance exposed to such pressure, as quite to explain any interference with its function. The results of operation also tend to show the importance of increased tension, for sometimes after mere incision the quantity of urine excreted is found to have doubled within twenty-four hours.

The cases in which Mr. Reginald Harrison would especially advise reni-puncture are those of acute congestion or inflammation, arising either from scarlet fever or chill, in which death seems imminent from suppression of urine, and others in which as time goes on the tendency does not seem to be towards recovery—albuminuria and casts persisting, and the functional efficiency of the kidney not being restored.

The operation itself need not be a serious one, the incision required being only moderate in extent, sufficient, that is, for digital exploration and for the making of three or four punctures, or a limited incision, according to the requirements of the case; while the conditions for which he advises it are in the one case quickly fatal, and in the other very prone to end in serious damage, not only within the kidney but throughout the blood vascular system.

From *The New York Medical News*, March 23, 1901.

#### SURGICAL PROPHYLAXIS OF NEPHRITIS.

WE present in this issue of the *Medical News* a lengthy abstract of the address of Mr. Reginald Harrison

(London) to the students of Cornell Medical College on "Retrospects and Prospects in Genito-Urinary Surgery." One feature of the prospect in the surgery of the urinary tract Mr. Harrison touched on but lightly, perhaps because its initiation was due to his own labours. It is the question of the significance of kidney tension in the production of albuminuria and even of suppression of urine and the problem of operative relief for the condition.

Kidney diseases remain one of the therapeutic opprobria of scientific medicine. We have learned to diagnose the various forms of nephritis, but we are utterly unable to influence their course. Of late years we have come to realise more and more our helplessness in treating this class of patients, owing to the wear and tear of the strenuous life, and the greater addiction of men generally to spirituous liquors and irritating concentrated foods has become far more frequent than it was. It is universally conceded now that the acute nephritis which frequently follows scarlet fever and other infectious diseases not rarely is the starting-point of the chronic nephritis which so often proves fatal in adult life. Even with the most careful prophylaxis, however, these acute nephritides develop in certain patients. At times they run so insidious a course as to be unsuspected. In others they produce very marked symptoms.

Mr. Harrison proposes to interfere surgically in some of these severe cases. He considers that the effort to eliminate toxins present in the circulation leads to over-congestion of the kidney. The irritating nature of the toxic substances in solution in the blood provokes additional congestion by interfering with the vasomotor apparatus of the kidney. The delicate secreting material of the kidney is surrounded by an absolutely unyielding fibrous capsule. In addition to this there are partitions of fibrous tissue extending down to the hilum of the organ that prevent compensatory dilatation of congested portions. The result of this continued congestion is permanent injury of the secreting mechanism of the

kidney. This state of overcongestion is not merely imaginary nor theoretical. After death from scarlatinal nephritis it is usual on autopsy to find the kidney intensely congested, the capsule tense and stretched, the whole organ of a shining dark colour and overfilled with blood.

The clinical feature of these cases is the suppression of urine that leads to the fatal termination. Oliguria gradually progresses to absolute anuria and then so-called uræmia develops. This urinary suppression Mr. Harrison attributes to what he calls renal glaucoma, that is, to a state of intrarenal pressure that inhibits function by interfering with the normal action and nutrition of delicate cellular tissues. The analogous condition in the eye from intraocular tension is well known, its sad results are now recognised, and surgical measures for its relief are considered the only justifiable treatment. Mr. Harrison's suggestive name has been well chosen, and he proposes to relieve the corresponding condition in the kidney by an incision that will relieve the intrarenal pressure.

He has had experience himself in several cases. In the first case it was expected that suppuration would be found in or around the kidney. The patient had had scarlet fever some three weeks before, and scanty albuminous urine with great lumbar pain were the permanent symptoms. When the kidney was opened a gush of blood relieved the pressure. The pain ceased at once. The urine gradually became more plentiful and the albumen disappeared. Until the improvement of symptoms took place it was thought that under mistaken diagnosis a needless operation had been done. Mr. Harrison has had some experience also in cases of persistent chronic congestion in which disorganisation of the intricate secreting mechanism of the kidney was prevented by incision. Subsequent drainage prevented the recurrence of the congestion until the vasomotor mechanism of the kidney regained its control.

Mr. Harrison suggested in an article in the *Lancet*

some time ago that "the operation should be reserved for cases in which there is evidence that the recuperative power of the kidneys suffering from nephritis is over-weighted. When after an attack of this kind the albumen is not disappearing from the urine and there is a prospect, unless some relief is found, of permanently damaged kidneys resulting, then a trial of this expedient (exploration through a small transverse lumbar incision with division of the kidney capsule where deemed advisable) may be undertaken without adding to the gravity of the circumstances." As these cases are absolutely unamenable to medical treatment, and as, even when an immediate fatal termination does not follow, subsequent chronic nephritis is not unusual, Mr. Harrison's suggestion may prove of great value in hitherto discouraging and almost hopeless conditions.

The subject is well worthy of the most careful study, and would seem to justify surgical boldness that may lead to precious results in a field where present-day medicine feels itself almost more than anywhere else at a loss.

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